

MAINTENANCE: INVESTMENT & OPERATIONS

Maintenance activities have been divided into two separate categories: MAINTENANCE INVESTMENT and MAINTENANCE OPERATIONS. Maintenance investment is defined as activities and purchases that prolong the life of assets, including roads, buildings, trails, and exhibits. Maintenance operations encompass routine, recurring activities and expenses necessary to keep the park functioning. Relative spending for these categories is presented in the chart, "Creation of a Maintenance Backlog."

MAINTENANCE: INVESTMENT

The repeated shortage of maintenance funding has resulted in the budgetary equivalent of crisis management: nearly all resources are expended upon immediate operational needs, while cost-effective investments in infrastructure (including roofs, utilities, and roads) are forsaken.

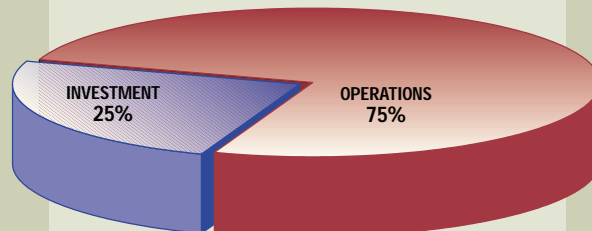
The resulting backlog of maintenance projects handicaps park operations. Over \$11 million has been requested through the budget process for the next four years alone. The Recreation Fee Demonstration Program annually provides approximately \$1.2 million in crucial funds for maintenance investment, but additional fund sources are needed. The Recreation Fee Demonstration program has



The Recreation Fee Demonstration Program provides approximately \$1.2 million in crucial funds for addressing basic maintenance investment needs. Additional fund sources are also needed.

Creation of a Maintenance Backlog

Funding shortfall forces neglect in asset maintenance.



helped to address some of these items, yet substantially more remain.

Insufficient funding prohibits adequate investment to maintain assets. The annual shortfall is approximately \$1.9 million.

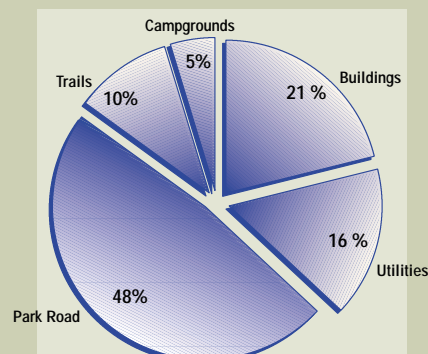
Maintenance Investment Needs.

A complete table of maintenance and facility investment needs is presented in the appendix. The annual investment shortfall is estimated



Decades of deferred maintenance has created a multi-million dollar need for Park Road restoration.

Maintenance Investment



Allocation of
Maintenance
Investment
funds, 1999

The Resource Preservation Annex, aka. "the meat locker." Workplace overcrowding is one of the Park's most serious safety issues.



at approximately \$1.9 million. Key assets requiring investment are presented in the following paragraphs.

The Denali Park Road.

The westernmost 60 miles of the Denali Park Road remains essentially unchanged since its opening day in 1939. In many areas, the original road base remains intact. Meanwhile, increasing

bus traffic and heavier loads have caused significant degradation in many areas. Improvement projects include repair of problem segments, brushing to improve sight distance, and culvert replacement. The remoteness of the road, limited gravel availability, and a continuous need for tourist access make maintenance projects expensive and plagued with delays.

Buildings.

Facilities built from the 1930's Civilian Conservation Corps era through Mission '66 now require substantial rehabilitation. Furthermore, as staff levels increase, numerous facilities have been converted into office space. These include former residences, garages, and even a comfort station. Other employees work year-round in poorly insulated trailers. Workplace overcrowding is one of the most serious safety issues facing the park.

THE TEAM TEAM

This vintage truck has been used to thaw culverts during spring road opening for over three decades. Breakdowns of aging equipment severely impact road maintenance operations.



Maintenance: Investment Backlog*

—Four-year Horizon—

Following are the requested maintenance projects for the next four years, representing less than half of the total maintenance backlog.

FY 2000	PROJECT	FUNDS ALLOCATED	FUND SOURCE
Building Maintenance	Upgrade Auto Shop	\$ 394,240	Repair/Rehab
Building Maintenance	Rehab Carpenter Shop	251,000	Repair/Rehab
Building Maintenance	Emergency Stabilization, Wonder Lake Ranger Station	140,000	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Quigley Cabin and Shed Stabilization	102,500	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Upgrade Auto Shop Ventilation	75,000	Title V
Building Maintenance	Install Oil Water Separator, Auto Shop	62,000	Title V
Building Maintenance	Rehab Wonder Lake Ranger Station Phase II	48,000	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Relocate and Expand Curatorial Facility	30,000	CRPP (Cultural Resources Preservation Prog.)
Road Maintenance	Road Safety Improvements Phase II	490,000	Repair/Rehab
Road Maintenance	Process gravel, Toklat	25,000	FLHP (Federal Lands & Highways)
Road Maintenance	Process gravel, Kantishna	25,000	FLHP (Federal Lands & Highways)
Road Maintenance	Spot Safety Improvements	96,000	FLHP (Federal Lands & Highways)
Road Maintenance	Bridge Maintenance	86,000	Regular Cyclic
Trails Maintenance	Trails Brushing	25,000	Regular Cyclic
Utility Maintenance	Rehab C-Camp Septic System	172,480	Repair/Rehab
Utility Maintenance	Upgrade WLRS water system	74,000	Repair/Rehab
Utility Maintenance	Upgrade Solid Waste Facilities	20,000	Hazardous Material/Waste Reduction
Utility Maintenance	Waste Handling Riley Creek	20,000	Hazardous Material/Waste Reduction
FY 2001	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Building Maintenance	Landscape Restoration at McKinley Park & Wonder Lake	\$ 325,000	Cultural Cyclic Maint.
Building Maintenance	Replace Carpenter/Resource Mgt. Bldg. Roofs	247,386	Repair/Rehab
Building Maintenance	Mt. McKinley Historic Patrol Cabin Phase I	100,800	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Wonder Lake Ranger Station Stabilization	58,240	CRPP (Cultural Resources Preservation Prog.)
Road Maintenance	Rehab Grassy Pass section, Park Road	850,000	FLHP (Federal Lands & Highways)
Road Maintenance	Road Safety Improvements Phase III	485,000	Repair/Rehab
Road Maintenance	Correct eroded road section, East Fork	483,000	FLHP (Federal Lands & Highways)
Road Maintenance	Process gravel, Kantishna	250,000	FLHP (Federal Lands & Highways)
Utility Maintenance	Replace Furnaces and Appliances	250,000	Cyclic Maintenance
Utility Maintenance	Upgrade Aviation Fuel Systems	174,000	Hazardous Material/Fuel Mgt.
Utility Maintenance	Rehab HQs Water Storage Tank	83,776	Repair/Rehab
FY 2002	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Building Maintenance	C-Camp Shower House Rehab	\$ 560,000	Housing Initiative
Building Maintenance	Rehab Historic Headquarters	172,480	Repair/Rehab
Building Maintenance	Rehab Wonder Lake Ranger Station Phase III	128,128	Repair/Rehab
Road Maintenance	Correct Safety Problems, Tatler Creek	583,000	FLHP (Federal Lands & Highways)
Road Maintenance	Correct Savage Area Parking Problems	275,000	FLHP (Federal Lands & Highways)
Road Maintenance	Overhaul of Vehicles/Equipment	112,000	Cyclic Maintenance
Road Maintenance	Phase I Roadside Brushing	90,000	Cyclic Maintenance
Road Maintenance	Phase III Parkwide Bridge Repairs	86,000	Cyclic Maintenance
Utility Maintenance	Rehab Headquarters Powerhouse	383,398	Repair/Rehab
Utility Maintenance	Rehab Water System Controls, Parkwide	136,998	Repair/Rehab
FY 2003	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Building Maintenance	Emergency Bank Stabilization Along Toklat River	\$ 439,999	Repair/Rehab
Building Maintenance	Rehab Housing for Roof, Electrical, Asbestos	300,000	Repair/Rehab
Building Maintenance	Rehab Historic Apartment Interiors	273,997	Repair/Rehab
Building Maintenance	Rehab Headquarters Septic System	235,558	Repair/Rehab
Building Maintenance	Rehab Seasonal Housing Recreation Hall	186,278	Repair/Rehab
Building Maintenance	Rehab Interiors, Correct Code Deficiencies in three Housing Units	166,566	Repair/Rehab
Building Maintenance	Mt. McKinley Historic Patrol Cabin Phase II	100,800	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Rehab Building 103, Ranger Cache	95,200	CRPP (Cultural Resources Preservation Prog.)
Building Maintenance	Lower East Fork Patrol Cabin	56,000	CRPP (Cultural Resources Preservation Prog.)
Road Maintenance	Correct Subgrade Drainage, Sanctuary Area	500,000	FLHP (Federal Lands & Highways)
Utility Maintenance	Replace Portable Toilets at Savage Rest	176,422	Repair/Rehab
Utility Maintenance	Rehab Savage and Teklanika Water Systems	54,208	Repair/Rehab
FOUR YEAR REQUESTED TOTAL		\$11,005,454	

* Due to unlisted backlog projects and overlap with cultural resource renovation, this number is not identical to the maintenance investment estimate presented on page 18.

** Funding has not yet been secured for years 2001-2003.

The average age of the park's heavy machinery is 14 years. The resultant lack of reliability coupled with Denali's remote location, can cripple road operations.



In 2000, spring road cleaning lasted ten weeks and cost over \$200,000. Purchase of a rotary plow would reduce operating costs and the potential of road opening delays.

Vehicle Fleet.

The vehicle and equipment fleet used by all maintenance operations has lapsed beyond its appropriate replacement schedule, decreasing reliability and worker safety. As a result, the park has been forced to lease vehicles at an annual cost of approximately \$380,000 per year. The park has documented a backlog of vehicle and equipment replacement needs totaling \$3.5 million.

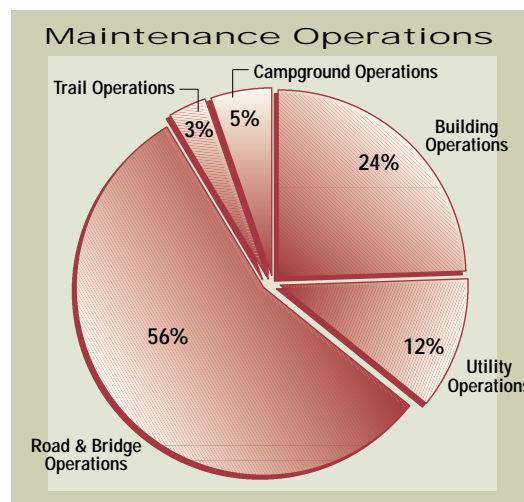
Increased demand by the tourism industry to extend the operating season has increased the need for snow removal equipment. In 2000, heavy snow nearly paralyzed the park's modestly equipped road opening operation. Progress averaged less than 1.5 miles per day, cost over \$200,000 and impeded lodging operations of Kantishna inholders. To remedy this situation, the park seeks to purchase a rotary snowplow. (Price: ~\$400 thousand.)

MAINTENANCE OPERATIONS

Maintenance operations include routine, recurring activities and expenses necessary to keep the park functioning.

Park Road.

The Park Road was originally designed to carry moderate numbers of light vehicles. This summer, more than 100 buses will traverse the road daily. The combination of larger vehicles, frequent use, and the road's high organic and clay content creates havoc during spring road opening and periods of heavy rain.



The cost of keeping the Park Road open consumes more than 50% of the park's maintenance operations budget.

Campground Operations.

The park is considering outsourcing of campground maintenance and operations with the 2002 concessions contract. Similar programs have been successful at reducing park expenditures and improving site amenities at both Yellowstone and Crater Lake national parks.

Utility Operations.

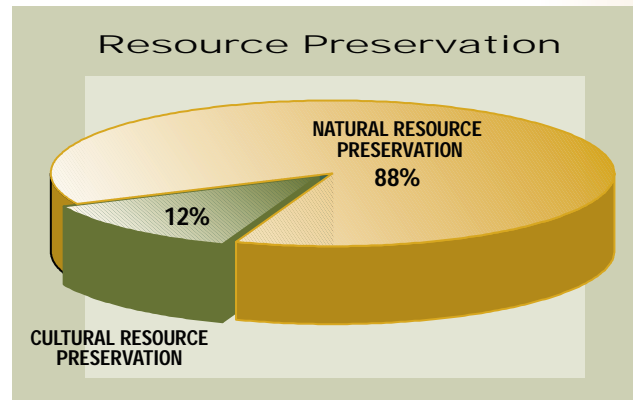
Remoteness and extreme cold temperatures increase Denali's utility costs. Heating, water, and sewer costs are relatively high in the subarctic. An aging infrastructure further adds to the cost of keeping utilities functional.

Budget Shortfall.

An operational maintenance shortfall of over \$500,000 is presented in the Financial Summary Table on page 18. Requests for increased base funding to cover unmet facility operations needs are presented in the section, "Operational Funding Increase Requests," located on page 31.

RESOURCE PRESERVATION

Denali National Park and Preserve is managed as a naturally functioning ecological unit. The park provides a visitor experience that emphasizes interaction with the natural world on its own terms. Denali National Park has had limited exposure to

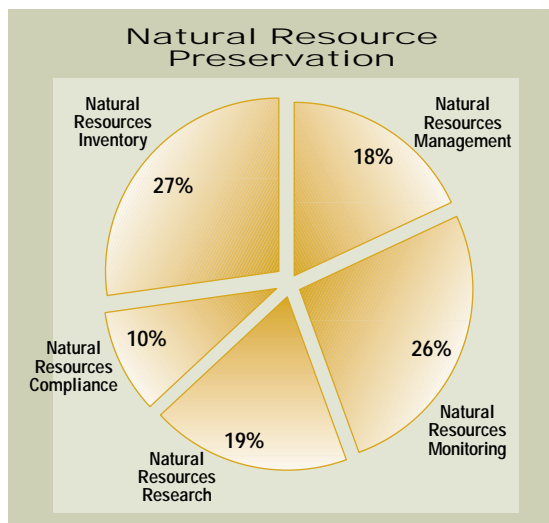
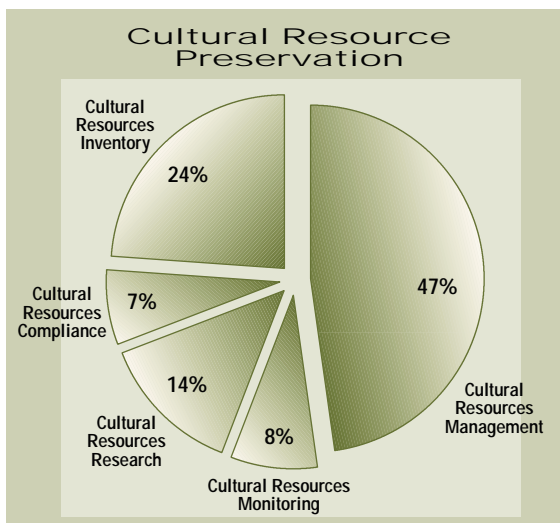


Spending on natural resource preservation is seven times greater than spending on cultural resource preservation.

prehistoric and historic human influences. Important cultural resources are preserved and interpreted. The accompanying graph, "Resource Preservation," portrays the allocation of resource preservation funds between natural and cultural resources.

Inventory & Research.

Scientific understanding of park ecosystems and ecological processes is incomplete and far less developed than similar sites in the contiguous 48 states. An aggressive, interagency program is underway to document the presence and abundance of species, the dynamics of wildlife populations, air and water quality, changes in glacier conditions, and climatic influences. In 1992, Denali launched a Long-term Ecological Monitoring (LTEM) program to document the health of the ecosystem.



Charts depict the level of spending in various resource preservation categories.



Monitoring.

The NPS mission of conserving parks unimpaired requires the ability to detect and document resource changes, and to understand the forces driving those changes. The park's Long-term Ecological Monitoring program supports this mission by collecting broadly based, scientifically sound information on the status and trends of the physical and biological resources of the park's ecosystem. The importance of LTEM is further amplified by Denali's mandated subsistence program, whereby managed hunting is permitted in the park's ANILCA additions.



Mitigation & Management.

While most of Denali is free from human influence, disturbances are present. Substantial restoration has been required as a result of placer mining in the Kantishna Hills. Tourism development can create additional impacts,

including ground disturbance, wildlife behavior modification, consumption of resources such as gravel and firewood, and exotic plant invasion.

Compliance.

In its current state of high visitation growth, regulatory compliance activity is costly and extensive. Compliance activities such as performing Environmental Assessments (EAs) and Environmental Impact Statements (EISs) cost hundreds of thousands of dollars annually.

Investment Needs.

A backlog of more than \$3 million in resource projects necessary for informed preservation and management decisions is presented on page 25. Additional recurring operational needs are included in the section, "Operational Funding Increase Requests," on page 31.



The many faces of resource monitoring



Proposed development of the Southside area required extensive research into area bear populations.

Resource Preservation: Investment Backlog*

— Four-year Horizon —

Following are the requested resource preservation projects for the next four years.

FY 2000	PROJECT	FUNDS ALLOCATED	FUND SOURCE
Cultural Resource Management	Preservation of the Historic Quigley Cabin and shed	\$ 107,500	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Management	Reduce Museum Cataloging Backlog	27,000	Backlog
Cultural Resource Research	Administrative History	67,000	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Research	Oral Histories	56,000	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Research	Cultural Resource Themes	25,000	CRPP (Cultural Res. Preserv. Prog.)
Natural Resource Inventory	Soils Inventory and Mapping	170,000	Inventory
Natural Resource Management	Assess and Mitigate Human Impacts in Arctic Areas	110,000	Concessions Franchise Fees
Natural Resource Management	Southside Resource Studies	80,000	NRPP (Natural Res. Preserv. Prog.)
Natural Resource Management	Caribou Creek Reclamation	51,000	NRPP-Disturbed Lands
Natural Resource Management	Floodplain Delineation - Park Road Corridor	21,000	Water Resources

FY 2001	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Natural Resource Inventory	Geologic Mapping of McKinley Quadrangle	\$ 235,000	USGS (U.S. Geological Survey)
Natural Resource Inventory	Vascular Plant/Vertebrate Inventory	200,000	Inventory
Natural Resource Inventory	Soils Inventory and Mapping	170,000	Inventory
Natural Resource Inventory	Survey of Subarctic Lakes and Ponds	100,000	USGS (U.S. Geological Survey)
Natural Resource Management	Southside Resource Studies	90,000	NRPP (Natural Res. Preserv. Prog.)
Natural Resource Management	Caribou Creek Reclamation	82,000	NRPP-Disturbed Lands
Natural Resource Monitoring	Natural Resources Monitoring	50,000	Monitoring - Network

FY 2002	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Cultural Resource Inventory	Kantishna Mining District Cultural Landscape Report	\$ 50,000	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Management	National Register Nominations	28,000	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Research	Historic America Building Survey of Stampede Mine	70,000	CRPP (Cultural Res. Preserv. Prog.)
Natural Resource Inventory	Vascular Plant/Vertebrate Inventory	200,000	Inventory
Natural Resource Inventory	Soils Inventory and Mapping	170,000	Inventory
Natural Resource Management	Glacier Creek Reclamation	150,000	NRPP-Disturbed Lands
Natural Resource Management	Southside Resource Studies	90,000	NRPP (Natural Res. Preserv. Prog.)
Natural Resource Management	Caribou Creek Reclamation	67,000	NRPP-Disturbed Lands
Natural Resource Monitoring	Natural Resources Monitoring	75,000	Monitoring - Network
Natural Resource Research	Resource Information Synthesis	62,000	NRPP (Natural Res. Preserv. Prog.)

FY 2003	PROJECT	FUNDS REQUESTED**	TARGET FUND SOURCE
Cultural Resource Inventory	Early Human Site Modeling to Aid Archeological Inventory	\$ 75,000	CRPP (Cultural Res. Preserv. Prog.)
Cultural Resource Management	National Register Nominations	30,000	CRPP (Cultural Res. Preserv. Prog.)
Natural Resource Inventory	Vascular Plant/Vertebrate Inventory	100,000	Inventory
Natural Resource Management	Glacier Creek Reclamation	150,000	NRPP-Disturbed Lands
Natural Resource Monitoring	Natural Resources Monitoring	75,000	Monitoring - Network

FOUR YEAR REQUESTED TOTAL \$ 3,033,500

*Some required investments in historic buildings have also been listed in the table, "Maintenance: Investment Backlog" (page 21).

** Funding has not been secured for years 2001-2003.

Denali's current Visitor Access Center offers bus and campground reservations, but little opportunity for learning. The Park seeks funding for an educational visitor center.

VISITOR EXPERIENCE & ENJOYMENT

Whether visitors choose to experience the park's natural and cultural resources while taking bus tours, hiking, skiing, or in other ways, Denali maintains a variety of programs to provide visitors with safe and enjoyable experiences.

Visitor Safety Services.

Greater than 50 percent of Denali's Visitor Experience and Enjoyment expenditures are related to visitor safety services. The Park's 6.2 million acres demand a complex course of law enforcement, emergency medical, search and rescue, and mountaineering management programs. The annual cost of Denali's mountain safety program alone amounts to almost \$500,000 (nearly \$500 per climber). These costs would be considerably higher if it were not for cooperative partnerships with the United States Armed Services, concessionaires, and other federal, state and local organizations.

Mountain climbing support and rescue operations can cost over \$500,000 per year.



Interpretation.

Interpretation refers to facilitating an understanding of park resources by the public. Educational displays, historical programs, and naturalist presentations are among Denali's interpretive programs. As one of the world's few remaining intact ecosystems, Denali provides an unrivaled setting for resource education and exciting interpretive opportunities.

Fewer than 20 percent of park visitors attend any Park Service interpretive program. As presented on page 16, park expenditures on a per visitor basis have plummeted over 160 percent since 1983.



Percentage of budget expenditures, by activity, 1999

Lacking any substantial interpretive or educational facility, Denali's current visitor center serves mainly as a ticketing and transportation center. Plans are underway to increase public education by constructing an interpretive visitor center, auditorium/theatre and exhibit space.

Complete funding for this proposed \$12 million facility has not been appropriated. The park's funding plan is presented on page 32.

MANAGEMENT & ADMINISTRATION

Visitation growth and the additional requirements created by ANILCA have substantially increased park management responsibilities.

Unique Challenges.

Denali National Park faces many unique challenges. As described in the "ANILCA" section, many of the laws governing the park have not been tested since ANILCA was passed in 1980. This means that park management and solicitors must interpret contentious issues such as road limits, inholding access, and snowmobile use.



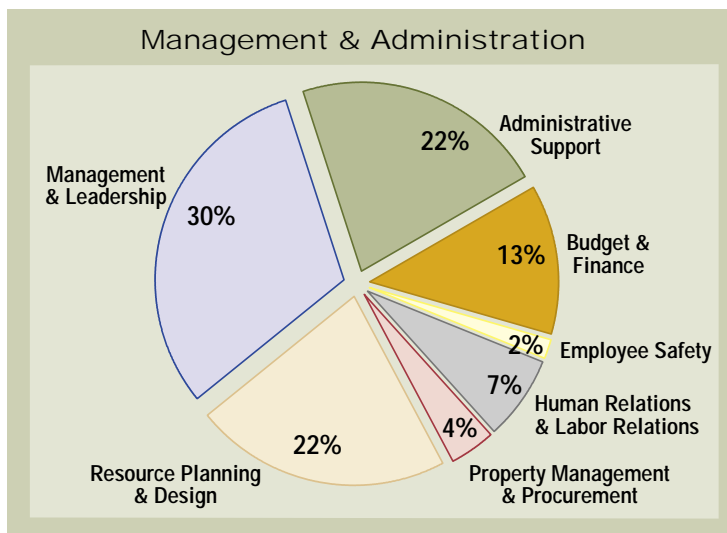
NPS interpretive programs are attended by less than 20% of park visitors.

Growth Challenges.

Denali's high visitation growth rate creates an additional difficulty for park management. As described in "Growth Management Strategy" (page 9), Denali has completed an ambitious frontcountry management plan to provide visitor experiences that are an alternative to the Denali Park Road tour.

Another plan currently underway, the Backcountry Management Plan, will determine appropriate backcountry activities and levels of use. This plan will address snowmobile use, aircraft overflights and landings, and other issues.

*As one of
world's few
remaining
intact
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Denali
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resource
education.*



Percentage of budget expenditures, by activity, 1999



MIKE GANNICHINI

GREAT HORNED OWL (*Bubo virginianus*).

FINANCIAL NEEDS & SOLUTIONS

- Financial Strategy: Operations
- Financial Strategy: Managing Growth Through Investments
- Financial Summary

